

REMARKS

The Official Action of 1 November 2007 has been carefully considered and reconsideration of the application as amended is respectfully requested.

In response to the Examiner's request to cancel the nonelected claims, claims 3-8 have been amended to depend from and to limit claim 9 whereby these claims are now directed to the elected invention. Claims 1 and 2 remain withdrawn from consideration and Applicants respectfully request that the requirement for cancellation of these claims be deferred until after final action or the application is otherwise considered to be in condition for allowance. See 37 CFR 1.144.

New claims 18-20 have been added more completely to define the subject matter which Applicants regard as their invention. Claim 18 recites the lower end of the temperature range recited in original claim 10. Claim 19 restricts additional method steps by the use of the "consists essentially of" transitional phrase. See MPEP 2111.03. (The "Background of the invention" on pages 2-3 of the specification provides guidance for a determination of the process steps that would be excluded by the "consists essentially of" transitional.) Claim 20 restricts the catalyst provided in step (a) to one prepared by the recited process.

Claims 9-17 stand rejected under 35 USC 103(a) as allegedly being unpatentable over EP 0209241 and Bamoharram. Applicants respectfully traverse these rejections.

First, Applicants respectfully note that Bamoharram is a 2006 publication whereas the present application was filed in 2004. Accordingly, the present application antedates Bamoharram, and Bamoharram is not citable as prior art against the present claims under any provision of 35 USC 102/103.

With respect to EP 0209241, the invention as defined by all of the claims recites the preparation of picoline by **reacting acetaldehyde and ammonia in the presence of heteropoly acid as support catalyst**. This is based at least in part upon Applicants' finding that the claimed reaction can obtain a yield of 50-70% (see specification at Examples 1-3) in an eco-friendly process. The Examiner contends that the reference teaches a method of making 2- and 4-picolinines from **acetaldehyde and ammonia** in the presence of a heteropolyacid catalyst, but she has respectfully not pointed to any portion of the reference that teaches this, and Applicants can find no such teaching in the reference.

In fact, EP 0209241 teaches a process of preparation of pyridines and pyridine bases by **reacting ethanol and ammonia** (molar ratio: 0.5 to 2.5) in vapor phase in the presence of heteropoly acid and gamma alumina support at 350-500°C. The **ethanol and ammonia** is vaporized and preheated separately and then fed into a catalytic reactor (Examples 1 and 2).

Applicants respectfully note that EP 0209241 also describes a **prior art** process in which pyridine and pyridine base have been produced by a cyclo-

condensation process in which an aldehyde is treated with ammonia in the vapor phase at elevated temperature and pressure in the presence of a catalyst (page 1, lines 17-25). However, the reference does **not** describe the use of heteropoly acid in the **prior art** process and, in fact, the prior art processes did not use the claimed heteropoly acid as support catalyst in the claimed reaction. See present specification at page 2, lines 27-30 ("The reaction of acetaldehyde or certain other low molecular weight aldehydes and ammonia either in the absence or presence of methanol and/or formaldehyde to yield pyridine and alkyl derivatives thereof has heretofore been carried out in the presence of amorphous silica-alumina composites containing various promoters."). Moreover, EP 0209241 does not teach, and in fact teaches away from, the use of acetaldehyde and ammonia for the preparation of picoline with (or without) the claimed catalyst in the process described therein. Compare EP 020241 at page 1, line 17 to page 2, line 3, with EP 020241 at page 2, lines 4-13.

In view of the above, Applicants respectfully submit that there is no basis upon which the cited reference can be used to set forth even a *prima facie* case of obviousness for the invention as defined in each of the claims. See MPEP 2142 (stating that rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.)

With particular respect to claim 18, Applicants respectfully note that, although a lower range temperature of 300°C can be used in the claimed process

without any harmful effect, EP 020241 teaches the criticality of using a higher temperature (page 2, lines 18-23). With particular respect to claims 3-8 and 20, a catalyst prepared by the claimed process would be expected to have different structural characteristics than the catalyst prepared by the process described in EP 0209421 at, e.g., the Examples on pages 5 and 6. See MPEP 2113 ("The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where. . . .the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product.").

In view of the above, Applicants respectfully submit that all rejections and objections of record have been overcome and that the application is now in allowable form. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,

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